Name _____

A Data Recipe Analysis Activity

Every Artificial Intelligence (AI) system starts with a recipe - a mix of *data ingredients* that teach it how to think and make decisions. But just like a real recipe, if the ingredients are unbalanced or missing variety, the final dish (the AI's decisions) can turn out wrong - or unfair.

In this activity, you'll play the role of an **AI Chef**. You'll read "recipe cards" that describe how different AIs were trained. Your job is to **spot which ingredients might cause unfair results** and **propose substitutions** that would make each AI's "recipe" more fair, balanced, and accurate.

**Recipe Card #1: "Hire-Me Helper" - An AI for Job Applications

Ingredients (Training Data): 10 years of past company hiring records, Employee performance reviews, Résumés of top executives (90% male), Interview notes written by past managers, Social media profiles of applicants

Cooking Method: AI analyzes patterns in who got hired before and predicts who should be hired next.

Result: The AI recommends mostly male candidates from the same universities as the executives.

Your Task:

1. Which ingredients might be causing unfair results?

2. What substitutions could make this data recipe fairer?
(Think about adding or replacing ingredients.)

3. What lesson does this recipe teach about bias in data?

Recipe Card #2: "Predict-o-Police" - An AI for Crime Prediction

Ingredients (Training Data): 15 years of police reports, Arrest records from all neighborhoods, Public complaints filed by residents, Newspaper articles about local crime

Cooking Method: AI finds patterns to predict where future crimes might happen.

Result: The AI keeps flagging the same neighborhoods as "high-risk" - even when crime rates there are going down.

Your Task:

1. Which ingredients might be causing unfair results?

2. What substitutions could make this data recipe fairer?

3. What lesson does this recipe teach about bias in data?

Recipe Card #3: "Health Hero" - An AI for Diagnosing Patients

Ingredients (Training Data): 200,000 patient medical records (mostly from urban hospitals), Health surveys written in English only, Fitness tracker data from people aged 20-50, Clinical images (mostly light-skinned patients)

Cooking Method:
AI studies the patterns and symptoms to recommend treatments.

Result: The AI misdiagnoses patients from rural areas and older age groups. It also struggles to recognize certain skin conditions in darker skin tones.

Your Task:

1. Which ingredients might be causing unfair results?

2. What substitutions could make this data recipe fairer?

3. What lesson does this recipe teach about bias in data?

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